



Early Journal Content on JSTOR, Free to Anyone in the World

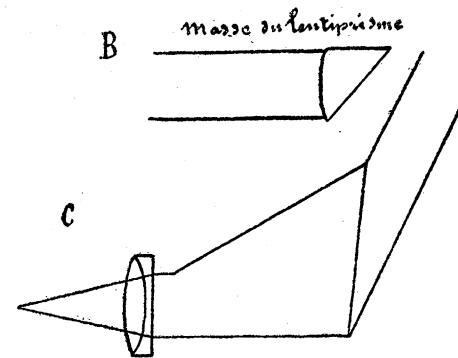
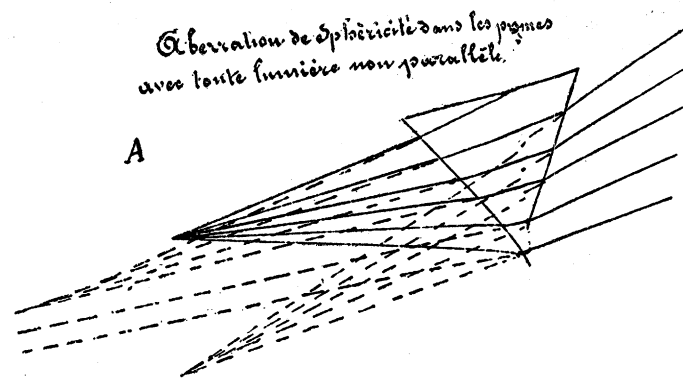
This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

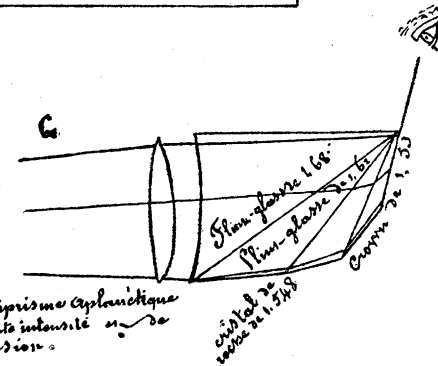
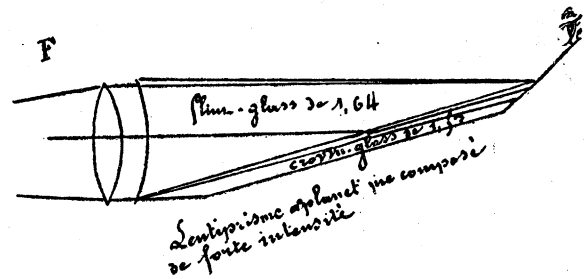
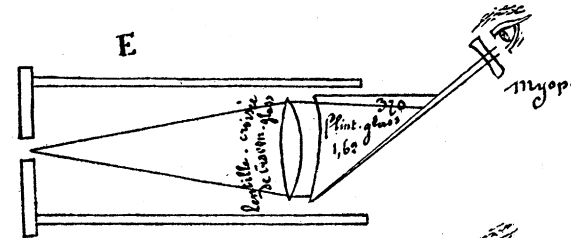
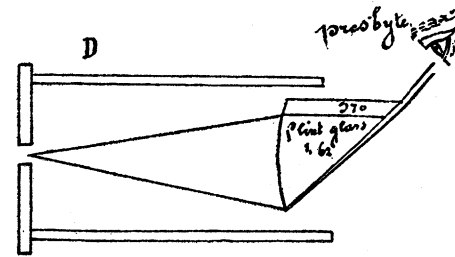
We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

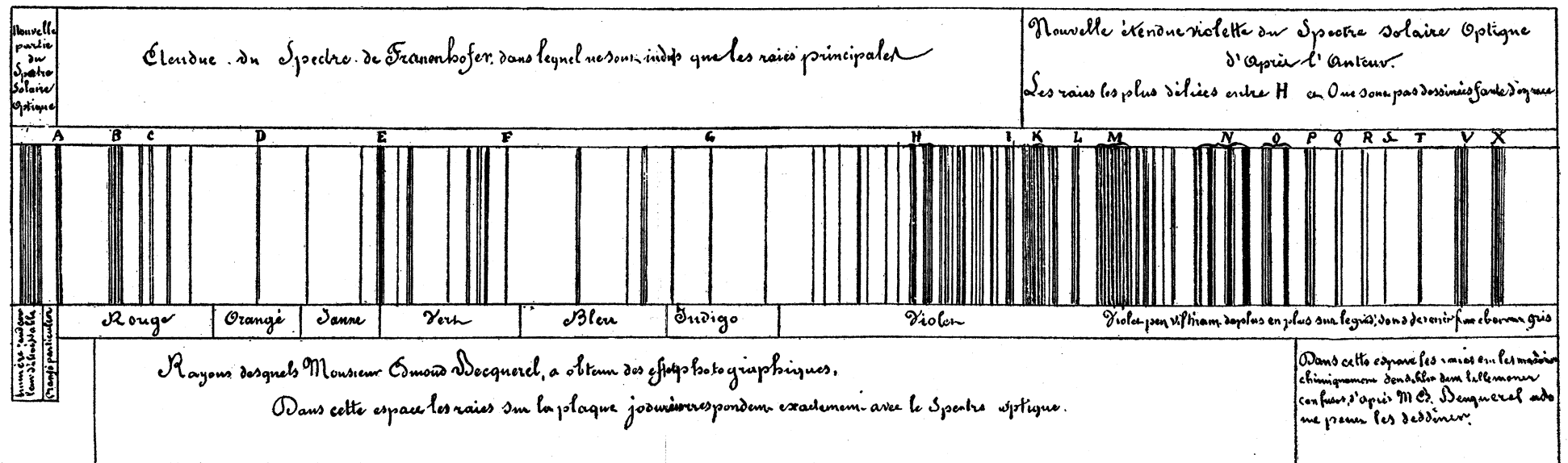
JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.



Cristal au minimum de déviation, prisme la même dispersion que B, mais ayant une masse sept fois plus grande.



4



Rayons qui éteignent la phosphorescence des sulfures de calcium et de barium.

Rayons qui exaltent la phosphorescence dans les mêmes sulfures d'après M^{re} Ed Becquerel.

SCIENCE

EDITORIAL COMMITTEE: S. NEWCOMB, Mathematics; R. S. WOODWARD, Mechanics; E. C. PICKERING, Astronomy; T. C. MENDENHALL, Physics; R. H. THURSTON, Engineering; IRA REMSEN, Chemistry; J. LE CONTE, Geology; W. M. DAVIS, Physiography; O. C. MARSH, Paleontology; W. K. BROOKS, C. HART MERRIAM, Zoology; S. H. SCUDDER, Entomology; N. L. BRITTON, Botany; HENRY F. OSBORN, General Biology; H. P. BOWDITCH, Physiology; J. S. BILLINGS, Hygiene; J. McKEEN CATTELL, Psychology; DANIEL G. BRINTON, J. W. POWELL, Anthropology.

FRIDAY, MARCH 12, 1897.

A LECTURE BY REGNAULT.

CONTENTS:

<i>A Lecture by Regnault:</i>	WOLCOTT GIBBS	409
<i>Professor Fontaine and Dr. Newberry on the Age of the Potomac Formation:</i>	LESTER F. WARD	411
<i>The American Morphological Society:</i>	G. H. PARKER.....	423
<i>Current Notes on Physiography:—</i>		
<i>Campbell on Drainage Modifications; Russell's Glaciers of North America; The Gohna Landslip:</i>	W. M. DAVIS	437
<i>Current Notes on Anthropology:—</i>		
<i>The Amerique Indians; 30th Report of the Peabody Institute; Pliocene Man in Britain:</i>	D. G. BRINTON.....	438
<i>Notes on Inorganic Chemistry:</i>	J. L. H.....	439
<i>Scientific Notes and News:—</i>		
<i>Revue de Mécanique; General.....</i>		440
<i>University and Educational News.....</i>		444
<i>Discussion and Correspondence:—</i>		
<i>Opportunities for Training in Physiology:</i>	H. P. BOWDITCH. <i>Note on Natrix Grohamii</i> B. & G.: FRANK C. BAKER, FRANK M. WOODRUFF. <i>Pseudo-Aurora Again:</i> H. A. HAZEN. <i>Greenland Glaciers:</i> EDWARD H. WILLIAMS, JR.....	446
<i>Scientific Literature:—</i>		
<i>Letourneau on l'Evolution de l'Esclavage:</i>	D. G. BRINTON. <i>The Geological and Natural History Survey of Minnesota:</i> C. E. BEECHER. <i>Shaw on Municipal Government in Continental Europe:</i> EDWIN O. JORDAN	448
<i>Societies and Academies:—</i>		
<i>Torrey Botanical Club:</i>	EDWARD S. BURGESS.	
<i>The New York Academy of Sciences:</i>	W. HALLOCK. <i>The Academy of Science of St. Louis:</i> WM. TRELEASE.....	451

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Prof. J. McKeen Cattell, Garrison-on-Hudson, N. Y.

WHEN a student at the Collège de France in 1847 I heard a lecture by Victor Regnault, of a part of which I send a copy. So far as I know, it was never printed. The lithographed copies were paid for by the students themselves. I think that the figures of prisms given (see plate) will have something more than a purely historical interest even now.

WOLCOTT GIBBS.

NEWPORT, January 27, 1897.

Quelques physiciens ont construits des appareils au moyen desquels on peut observer les raies du spectre sans qu'il soit nécessaire de se placer dans une chambre obscure.

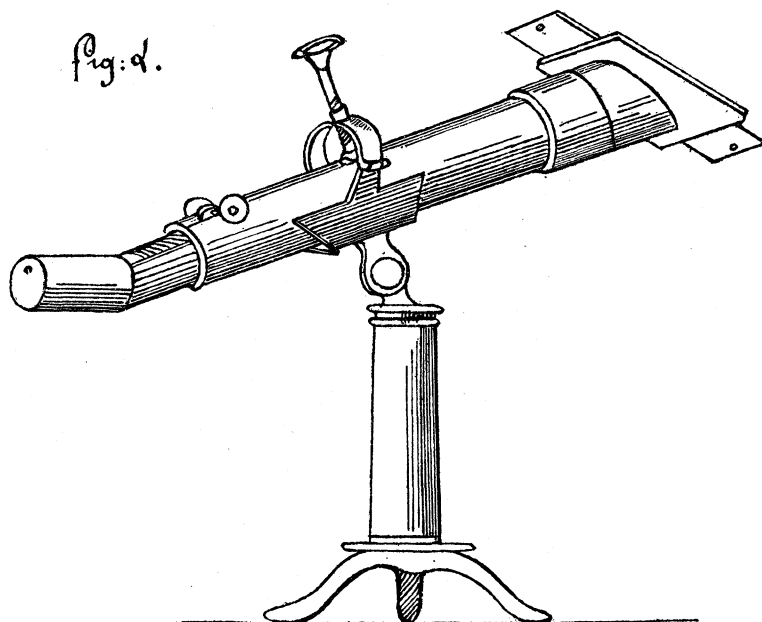
A l'une des extrémités d'un tuyau, Mr. Dujardin place un diaphragme rectiligne; à l'autre extrémité, un certain nombre de prismes fixés dans la position du minimum de déviation, en les disposant ainsi, il a pour but de diminuer autant que cela est possible, l'aberration de sphéricité qui résulterait de ce que les rayons incidents ne sont pas parallèles.

On obtient ainsi un spectre très dévié, mais cette disposition présente plusieurs inconvénients; la déviation minimum n'a lieu que pour les rayons qui marchent dans l'axe du tuyau; de plus, quoi que l'on ait diminué le plus possible l'épaisseur des prismes les pertes de lumière par réflexion

sur leurs faces, sont encore assez considérables.

Mr. Mathiessen a fait disparaître ces inconvénients au moyen de l'appareil qui est représenté par la figure (a).

de sphéricité considérable, parcequ'il ne remplit pas la même condition à l'égard de tous les rayons. Grâce à la face lenticulaire du lentiprisme B, qui rend les rayons parallèles avant leur arrivée à la face



Il se compose essentiellement d'un lentiprisme (Fig. B.), c'est-à-dire d'un prisme dont une des faces est lenticulaire. Cette face est perpendiculaire à l'axe d'un tuyau qui porte le prisme à l'une de ses extrémités et qui est réuni à l'autre bout d'un diaphragme rectiligne. Les rayons lumineux en traversant la face lenticulaire sont ramenés au parallélisme et arrivent à la face postérieure en faisant tous un angle à peu près égal à celui de la réflexion totale. Ils émergent par conséquent presque parallèles à cette seconde place. L'effet du lentiprisme ressort des figures A. B. C. dessinées par Mr. Mathiessen. La fig. A. montre comment un prisme ordinaire qui reçoit un faisceau de rayons non parallèles et qui est placé dans la position du minimum de déviation par rapport aux rayons centraux, produit encore une aberration

de sortie, l'aberration de sphéricité se trouve évitée; il ne reste que l'aberration de réfrangibilité qui importe peu, parcequ'il n'est pas nécessaire d'observer toutes les couleurs en un même point. Le système C, composé d'une lentille et d'un prisme pourrait produire un effet analogue à celui du lentiprisme mais pour produire la même dispersion sur un faisceau incident de même ampleur, il devrait avoir une masse beaucoup plus considérable. On peut encore empêcher l'aberration de réfrangibilité par l'addition de lentilles disposées de façon à produire une sorte d'achromatisme.

Cette modification se trouve réalisée dans les figures F et G, qui représentent, en outre le lentiprisme composé. Ce lentiprisme composé a permis à Mr. Mathiessen d'obtenir une dispersion plus considérable qu'avec le prisme simple. Et c'est ainsi qu'il a pu

étendre les parties extrêmes du spectre au delà des limites observées par Fraunhofer. Les nouvelles parties du spectre, avec leurs raies sont représentées dans la Fig. 4, qui est la reproduction du dessin communiqué par Mr. Mathiessen.

*PROFESSOR FONTAINE AND DR. NEWBERRY
ON THE AGE OF THE POTOMAC FORMATION.*

THE appearance at this time of two important works on the Potomac formation, though both of them have been long delayed in publication, is peculiarly opportune in view of the discussion now going on in relation to the age of that formation. These works are first, that by Professor Fontaine on the Potomac Formation in Virginia,* and second, that of Dr. J. S. Newberry, on The Flora of the Amboy Clays.†

The greater part of the matter of the first of these works was originally submitted by Professor Fontaine as an introduction to his important work on The Flora of the Potomac Formation,‡ giving a somewhat detailed account of the stratigraphical relations of the Potomac formation in Virginia. But it was thought best to omit this introductory part and publish it separately. Owing to causes which need not be here enumerated, the publication of this part of his work was long neglected, but is now happily before the scientific world.

As its name implies, this treatise is confined mainly to those portions of the Potomac formation which lie south of the Poto-

* The Potomac Formation in Virginia, by William Morris Fontaine, Bull. U. S. Geol. Surv., No. 145, Washington, 1896.

† The flora of the Amboy Clays, by John Strong Newberry. A posthumous work, edited by Arthur Hollick. Monographs of the U. S. Geological Survey, Vol. XXVI., Washington, 1896 (erroneously dated 1895).

‡ The Potomac or Younger Mesozoic Flora, 2 Vols. text and plates. Monographs of the U. S. Geological Survey, Vol. XV., Washington, 1889.

mac River, *i. e.*, almost exclusively to the State of Virginia, and only contains incidental references to the condition of things in Maryland. A consequence of this is that it deals wholly with the Older Potomac and does not attempt to discuss the prolongation of the formation through New Jersey and northeastward, where all the beds thus far found belong to the Newer Potomac, which finds its greatest exemplification in the Raritan and Amboy Clays.

The second of these works, on the contrary, deals exclusively with the Newer Potomac, but under the term Amboy Clays Dr. Newberry expressly included all that was known to him of those beds which occupy the north shore of Long Island and are found all the way from Staten Island to Marthas Vineyard. Although I have designated these latter beds as the Island Series, and have sufficiently demonstrated the justness of this subdivision, I have at the same time admitted that the character of the flora is substantially the same throughout.

We thus have two new contributions to the subject under discussion written by able men who are not exclusively nor chiefly paleobotanists, but are known to the world as geologists of the first grade, each of whom prior to writing his work had devoted many years to an exhaustive study of the formation to be dealt with. Although much has been learned since the date at which these works were written, it is not proposed in this paper to make special reference to such discoveries, as they have been for the most part fully set forth in a series of papers by Mr. David White, Dr. Arthur Hollick and myself, an acquaintance with which will be assumed on the part of the reader.* But

* See Bull. Geol. Soc. Am., Vol. I., p. 554; Vol. VII., p. 12; Am. Journ. Sci., 3d Ser., Vol. XXXIX., p. 93; Trans. N. Y. Acad. Sci., Vol. XI., p. 96; Vol. XII., p. 1, 222; Vol. XIII., p. 122; Bull. Torr. Bot. Club, Vol. XXI., p. 49; Fifteenth Ann. Rept. U. S. Geol. Surv., p. 307; Sixteenth Ann. Rept. U. S. Geol. Surv., p. 463.